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This study was made to identify and measure social-environmental characteristics of low income children and to analyze the relationship of these variables to cognitive and socioemotional measures taken shortly after entrance into Head Start. It was felt that such information would be useful to teachers and curriculum planners who wished to devise experiences for Head Start children based on defined areas of deprivation. Data was obtained from Head Start children and their mothers. These low and middle income mothers were administered the Social-System Interview, based on the open-systems theory. Only the variable of hierarchical order was investigated. Because of the small sample (45 children and 45 mothers) and the large error variances, no definite conclusions were reached about the relationship between the mothers' attitudes and the performance of the children. It was found that the low income group was quite heterogeneous in attitude. (WD)

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Report Number
2

Social Antecedents of Preschool Children's Behaviors

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Abstract

SOCIAL ANTECEDENTS OF PRESCHOOL CHILDREN'S BEHAVIORS

James Weber

The theoretical basis of this investigation was open-systems theory. A social-system interview was devised to describe the early social environment of the disadvantaged child. This interview focused on the child and defined the environment in relationship to him. The chief characteristic investigated was that of the presence or absence of "hierarchical-order" or the presence or absence of a central source of direction and control.

The interview was administered to 30 low-income mothers and 15 middle-income mothers. The results of the interview were compared to measures made on children shortly after their entrance into Head Start classes.

The results of the analysis indicate great variations within the low-income population. The means of the low-income mothers' responses appear to differ significantly from those of the middle-income mothers on factors non-conducive to desirable test scores. The means of the low-income mothers do not differ significantly from those of the middle-income mothers on factors which are favorable to desirable test scores.

Due to the small size of the sample and the large error variances it is difficult to reach definite conclusions. Some indications of direction were discussed, and finally some tentative indications for teachers and curriculum planning were made.

SOCIAL ANTECEDENTS OF PRESCHOOL CHILDREN'S BEHAVIORS

James Weber
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July 15, 1968

Introduction

On almost all measures of desirable behaviors such as tests of intelligence, creativity or social adjustment, low-income children consistently score significantly lower than their middle-class counterparts. Within the middle-class group there is tentative evidence as to what factors in the history of the child are related to these desirable behaviors. However, it is not possible, since socioeconomic status has been found to interact with these factors, to state that the variables from which one can predict the behavior of middle-class children are also related in the same manner to the behavior of low-income children. Low-income children constitute a special group demanding special investigation to determine what environmental variables relate to later behaviors.

This study was undertaken to identify and measure social-environmental characteristics of low-income children and to analyze the relationship of these variables to measures taken shortly after entrance into Head Start. The need for such a study was predicated on the assumption that such information would be useful to teachers and curriculum planners who wish to devise experiences for Head Start children based on defined areas of deprivation.

This study was exploratory. It did not proceed with the same well-tried theory, well-defined area of investigation, or specificity of methods that could be expected in some more well-traveled route of research. The conceptual scheme, while broad and comprehensive with some empirical support, has not been used in the same form in previous research as it has been used

here. Investigations of the child's history have been limited to what Clausen (1963) would term the "sociological correlates." However, even this concept is not quite accurate in that variables such as result from parent-child interaction (for example, parental expectations) have usually been eliminated from such studies.

In this study the areas investigated are those "sociological correlates" which can be presumed to be antecedents of the child's later behavior. The variables selected for study were those factors over which it can be presumed the child would have the least control. The methods of data-gathering were designed in such a fashion that a teacher without a clinical background or training in in-depth interviewing might acquire the same information about a given child for the purposes of his own research.

The present study was also novel in that it did not investigate only the child's family but broadened the meaning of the child's social-system to include all members of the child's social milieu who interacted with the child and with one another. Broffenbrenner (1967) states that the immediate family has been the primary focus of studies in Western culture and suggests that there is a need now for studies that do not limit investigation to the immediate or even the extended family. There are indications that this need might be especially applicable to studies of low-income families.

Previous Research

Due to the unique characteristics of the study, there is little previous research that directly bears on the theory, area of investigation, or methods used in this study. Although the present study did not make the family or parental characteristics the focus of investigation, certain aspects of previous research and especially the dificulties encountered in several studies do help to clarify the approach of the present study.

Clausen (1963, 1966) summarizes the research attempting to relate home variables to children's behavior. Very little of this research refers directly to children of the age group of Head Start children, and the variables studied have seldom been related to measures which are applicable to a Head Start setting. Clausen, in common with the bulk of researchers, is concerned with family variables, and deplores a lack of a unified theory of family functioning or a family typology. He cites the difficulty of the great number of variables and their complicated interactions. It was partly the lack of a workable theory of family functioning or a family typology which suggested the focus of "social-system" in the present study.

Payne and Freeberg (1967) in summarizing the research of parental influence on cognitive development cite the difficulty arising from apparently contradictory findings. Since personality factors are quite often the focus of investigation this is not surprising. It has not been established that personality characteristics can be measured on a continuum; for example, the nurturant mother might well be the non-nurturant mother as well. Another difficulty of relating parental characteristics to a given child's behavior is that each child has his own unique environment. This principle is axiomati in family treatment. Each child, in a given family, can be treated quite differently by the parents. Difficulties with personality theory were one reason why this study attempted to remove this aspect from the "sociological correlates" investigated.

Chilman (1965) reviews previous research which indicates the patterns of educationally non-conducive families. She makes some suggestions about themes which might be general among these families and refers to a common element, maturity, which might characterize the educationally conducive families.

With regard to methods of data-gathering, Jersild (1968) cites several studies which cast doubt on the reliability of mother's recollections of the behavior of their children.

In summary, despite the great amount of research conducted, such investigators as Clausen (1966) and McNeil (1960) point out that very little is known about the early social environment of children. This is especially true of low-income, or lower-class children. The major difficulties in investigating the early social environment of children are: (a) lack of a viable theory of family functioning; (b) large number of identifiable variables; (c) contradictory findings; and (d) unreliability of mother's recall.

The present study attempted to meet these difficulties. The theory underlying this study represents the social-system of the child in a unitary fashion. In place of molecular or refined variables more molar patterns of behavior were identified and investigated. Such variables as personality characteristics, which might be expected to lead to inconsistent findings and are difficult to investigate, were avoided. Finally, although mother's recall was the only source of data, the interview used in the study was devised so as to eliminate as much as possible those factors which could be presumed to limit the reliability of recall.

Objectives

The first objective of the study was to devise an interview schedule which would obtain data about the child's social-system for each of the four years preceding entrance into Head Start. The second objective was to use this interview with a sample of mothers whose children were enrolled in Head Start in order to relate this measure to measures obtained from the children shortly after entrance into Head Start.

Theoretical Background

Open-systems theory, as developed by Bertalanffy (1960) was used as a conceptual scheme for the development of the Social-System Interview. The use of this scheme was suggested by its certain quality of universality; Bertalanffy suggests that it is applicable to many diverse fields of investigation. The characteristics of educationally non-conducive and conducive families bear a similarity to the characteristics of open-systems theory. Bertalanffy's discussion of the unity and maturity of a system is analogous to the terms used by Chilman in her review of research. It appears possible, although this possibility is not carried through in this study, that if intercorrelations among the characteristics of a child's social-system, conceived of as an open-system, were high then such a child would have a very mature or unified social-system. It might be possible to so measure these characteristics as to emerge with a single score on maturity or unity. A child with a high score would, from the indications of past research as cited by Chilman, adapt well to educational experiences.

Open-systems theory may best be summarized by the following two statements by Bertalanffy:

> We can therefore summarize the leading principles of an organizmic conception in the following way: The conception of the system as a whole as opposed to the analytical and summative points of view; the dynamic conception as opposed to the static and machine-theoretical conceptions; the consideration of the organism as a primary activity as opposed to the conception of its primary reactivity. (1960, 18-19).

> The principles that hold for systems in general can be defined in mathematical language. A more elaborate treatment will be given in a following volume. It will be seen then that notions such as wholeness and sum, progressive mechanization, centralization, leading parts, be derived from a general definition of systems; notions that hitherto have often been conceived in a vague, anthropomorphic, or metaphysical way, but actually are consequences of formal characteristics of systems, or of certain systems conditions. (1960, 199).

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The characteristics of open-systems listed in Bertalanffy's book are:

1. Interaction with the environment
2. Spontaneous activity
3. Purpose
4. Adjustment
5. Progressive mechanization
6. Closeness of interaction
7. Progressive differentiation
8. Individuality
9. Mutual interdependence
10. Assertion
11. Equifinality
12. Hierarchical order

The theory would indicate that a social-system which measures high on all of these characteristics would be very mature or unified. Past research, as reviewed by Chilman, would indicate that the child from a highly unified or mature system would score high on measures of desirable behaviors in the school setting. This was the general hypothesis of this study.

Hierarchical Order

Only one characteristic of open-systems theory was chosen for investigation in this study, the variable of hierarchical order. The characteristic of hierarchical control was chosen for investigation for four reasons. It is a characteristic of open-systems often mentioned by Bertalanffy as being logically necessary as a prerequisite for other characteristics such as interdependency of parts, progressive differentiation, and mutual interdependence. Thus it appears as a key concept in the conceptual model. Secondly, in organisms, from the study of which organismic theories derive their basic concepts, the higher the living type the more central the source of direction and control. As applied to social-systems this would have a more central source of control and direction. Thirdly, Chilman's study indicates that family patterns conducive to educational achievement

are characterized by centrality of direction and control. Finally, this variable appears to offer the possibility of being operationalized on the "behavioral" level in which this study was conducted. As applied to the social-system of the child this would mean that among a given child's caretakers there is only one central source of control and direction.

In operationalizing the characteristic of hierarchical order it was assumed that any individual in the child's social-system who is older than the child would be capable of control and direction. This refers not to the quality of control and direction but only to the physical possibility of exercising power over the child. The limitations discussed in the introduction and review of research above were taken into account in translating the concept of hierarchical order into behavioral terms. The following items of hierarchical order were incorporated into the interview: (a) Size of the child's social system, (b) number of caretakers, (c) sources of direction, (d) disagreement among caretakers, and (e) the numbers of persons entering and leaving the child's social system.

Predictions

It was reasoned that large numbers of older persons in the child's social system would mean many sources of control and direction for the child. Sources of control and direction would vary with caretakers, numbers of persons entering and leaving the child's social-system, and the number of persons in disagreement about the activities of the child. The variable of assertion, referring unlike the other variables to the child's activity directly, was introduced to determine whether the child himself attempted to order his own environment.

It was hypothesized that desirable behaviors such as scores on intelligence tests, measures of creativity, and measures of social

adjustment would correlate negatively with high scores on the variables which resulted from the operationalization of the above concepts. (This does not refer to assertion.)

The logic by which predictions were made can be stated on different levels. Chilman's review suggests that socially immature systems produce non-achieving children. The absence of hierarchical-order indicates an immature or dis-unified system. Sociologically this rationale suffices as a basis for prediction. However, one might refer further to a theory which states that emotional and cognitive factors are indistinguishable at their source. A large number of persons directing and controlling a child and in disagreement about his activities from infancy might hinder the formation of patterns or sets which are necessary for later cognitive abilities. One might predict that a child's ability to objectify both his own behavior and external objects might suffer from intellectual and emotional disorganization as internalized from a chaotic situation. One might also infer that a child who was in continual interaction as the result of having many caretakers would not have the freedom to develop behaviors or sensorimotor patterns which should form the schemata for later concepts. It was assumed in this study, and for the accomplishing of the practical purposes of the study, that the explanations could await the establishing of the relationships if they were present. It was felt that the empiriaal evidence summarized by Chilman would serve as sufficient basis of the predictions.

Procedures

The Social-System Interview (SSI) is reproduced in Appendix A. For a better understanding of this interview, certain features should be noted. The interview contains no introduction. It was felt that flexibility could be used in introductions. In each case the interviewer introduced himself as a member of a Head Start Research Team, assured the mother that there were no right or wrong answers, and informed the mothers that this interview was given to all the mothers of the children in the Project. It is interesting that several of the low-income mothers adverted to this fact during the interview.

The interviewer using the questions from Form A-I and writing down the answers on Form A-II identified all the members of the child's social-system for each of the years preceding entrance into Head Start. Although younger siblings were identified they are not included in the subsequent analysis. It will be noted from the answer sheet, form A-II that in order for an individual to be enumerated in the social system he had to be specified by name, age, and relationship to the child. With form A-II completed the interviewer proceeded to complete Form B. Identical questi ons for each of the nine areas of the child's activity were asked for each ar ea and for each of the four years preceding entrance into Head Start. Altho ugh the questions in the SSI are standardized, this did not preclude some further clarification if the mother did not seem to grasp the meaning of a question. For example, if the mother did not seem to comprehend the meaning of the question on assertion the interviewer could proceed to give examples: "Did the child, (in the area of eating) like or dislike certain foods?" "Did the child refuse to let certain people feed him?" These persons had to be enumerated by name.

The average length of the interview was an hour and fifteen minutes. As was anticipated, the length of the interview plus the repetition of the same questions made the experience somewhat tedious for the mothers. It was' not possible to engage in much additional conversation if the interview was to be completed in a reasonably short time.

The variables resulting from the interview and the scoring are as follows:

Sex

Father Absence, scored 0 to 4, the number of years the father was absent from the home.

Older Siblings, scored 0 to 9. Only older siblings are counted in the analysis; 9 was the largest number of older siblings encountered in the sample.

System-Size, the number of all those older than the child who were in a position to interact with the child and did. It does not include younger siblings or infrequent visitors.

Instability, the number of individuals who interacted with the child and who entered or left the child's social-system during a given year.

Caretakers enumerates caretakers and rates the extent of caretaking assumed by others than the mother. The scores are deviations from 0, which indicates that the mother was the sole caretaker in every area of the child's activity. The rating for this variable, and the succeeding variables listed below, was computed in this fashion: the caretaker was identified and the extent of interaction with the child was rated. If the caretaker interacted only half as much as the mother in a given area a score of 2 was given. If the caretaker interacted only occasionally then a score of 1 was given. Thus if three persons acted as "second mothers" a score of 9 was given in this area of the child's activity.

Disagreement enumerates and rates in the same manner the extent to which persons were in disagreement about the care of the child. The mother is included in this score.

Direction enumerates and rates the extent to which persons, other than the mother, gave orders to the child or about the child in the child's presence. Such persons might or might not physically care for the child.

Assertion enumerates and rates the extent to which the child asserted himself to obtain goals. This score included the mother.

Playmates enumerates those who played with or watched the child during play. A rating is made of the extent to which others than the mother interacted at play with the child.

Outside Visits enumerates and rates the extent to which others than the mother took the child from the home for any purpose. The mother's trips from the home with the child are not counted unless she is accompanied by another person older than the child.

It will be remembered that four ratings for each variable are made, one for each year preceding Head Start.

The score for a variable in a given year was achieved by summing across the 9 areas about which a particular question was asked. This was true of all variables except those of playmates and outside-visits (the scores from question [a] in the areas of play and outside activities respectively).

No rationale could be determined by which weights could be assigned to the various areas of the child's activity. Thus scores were summed across the various areas. The scores on a given variable in a given area of the child's activity are a rating of the extent (according to time) to which a given person interacts with the child.

Dependent Variables and Measures

This study was conducted in conjunction with another study of Head Start children which investigated the effects of exposing disadvantaged children to interaction in the Head Start classroom with advantaged children.[1] In that study, a number of variables were measured in the fall of

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[1]The variables and measurements in this study are explained further in a paper describing the Lansing, Michigan experimental Head Start program. The paper is available from the Michigan State University Head Start Evaluation and Research Center.

the 8-month school year. The dependent variables in the present study are these measures.

Cognitive variables -- Two measures of cognitive processes were included in the present study. The Weschler Preschool and Primary Scale of Intelligence (WPPSI), which is composed of thirteen subtests, was used to measure the various components of general intelligence. In addition, the WPPSI examiner's ratings of Factors Affecting Test Performance were used to supplement the WPPSI data. The Cincinnati Autonomy Test Battery (CATB), composed of fifteen subtests, measures variables independent of intelligence but related to effective problem solving and school performance. The data available from these two instruments are:

WPPSI	CATB
1. Full Scale	1. Task Initiation
2. Verbal	2. Curiosity Box
3. Performance	3. Dog and Bone
4. Information	4. Reflectively
5. Vocabulary	5. Field Independence
6. Arithmetic	6. Motor Impulse Control
7. Similarities	7. Incidental Learning
8. Comprehension	8. Intentional Learning
9. Animal House	9. Persistence
10. Picture Completion	10. Resistence to Distraction
11. Mazes	11. Task Competence Rating
12. Block Design	12. Social Competence Rating
	13. Kindergarten Prognosis Rating
	14. Verbal Curiosity
	15. Fantasy-related Behavior

Socioemotional variables -- The children's interaction patterns were measured using the Play-Situation Picture-Board Sociometric; the Sociometric score used for this study was the child's popularity (i.e. frequency of being chosen) with the other children. The Parten-Newell rating scale of social behavior development yields six scores, the extent to which the child engages in each of the six levels of play behavior. The Brown Self-Concept

Referents Test yields a score which reflects the strength of a child's self-concept.

Sample

The group of children participating in the study referred to above provided the sample for the present study. Of the total 45 children, thirty were from low-income families and represented the population of children enrolled in Head Start in Lansing, Michigan. The remaining fifteen children were from middle-income homes. The sex, ethnic and socioeconomic characteristics of the sample are outlined in Table 1. Ages of the children ranged from 45 to 57 months (median 52 months). The low-income and middle-income children were matched for age as well as sex and ethnic group.

TABLE 1

Distribution of Sample by Ethnic Group, Sex, and Socioeconomic Class

Ethnic Group	Socioeconomic Class	
	Low-Income	Middle-Income
Negro		
Girls	7	4
Boys	9	4
White		
Girls	5	2
Boys	5	4
Spanish-American		
Girls	1	0
Boys	3	1

Although comparisons were made between the mothers' responses and all the test scores enumerated above, hypotheses were made only in reference to the means of the low- and middle-income groups' responses on the SSI, the

correlations between the SSI and the CATB, and the Sociometric. The following are the Hypotheses:

> Hypothesis I: The means of the low-income and middle-income mothers' responses on the variables of system-size, instability, caretakers, disagreement, direction, playmates, outside-visits and assertion will differ. The means of the low-income mothers' responses on system-size, instability, caretakers, disagreement, and direction will be higher than those of the middle-income mothers. The means of the low-income mothers' responses on playmates, outside-visits, and assertion will be lower than the means of the middle-income mothers' responses.
>
> Hypothesis II: The responses of the low-income mothers' responses on system-size, instability, caretakers, direction, and disagreement will correlate negatively with the scores of the WPPSI, the scores of the CATB, and the category Most-Liked on the Sociometric.
>
> Hypothesis III: The low-income mothers' responses on assertion, outside-visits, and playmates will correlate positively with the scores of the WPPSI, the CATB, and the category Most-Liked on the Boger Sociometric.

The F Statistic was used to test Hypothesis I and the Pearson-Product-Moment Correlation Coefficient was used to test Hypotheses II and III.

Results: The Social-System Interview

The basic data obtained from the various subscales of the SSI are presented in Table 2 for the low-income mothers (the N for middle-income mothers was too low to permit extensive interpretation). Table 2 is a correlation matrix for the forty-two variables comprising the SSI.

Results: Hypothesis Testing

Hypothesis I

The first hypothesis was tested using the F test of differences between means. The means, F value, and probabilities are presented in Table 4. As can be seen, Hypothesis I is only partially sustained. The scores of the low-income mothers are generally higher on the variables about which it was predicted they would be higher. However, after the first year they did not

score higher than the middle-income mothers on the variable of instability. On the variable of assertion the hypothesis was not sustained. Although the differences are not significant, except for the total score, the differences are clearly in a direction contrary to the hypothesis. On outside-visits the middle-income mothers' scores are somewhat higher during the last two years but not during the first two years. On playmates the results of the tests were in the direction contrary to the hypothesis for all four years and the total score.

Hypothesis II

The results of correlations between the SSI and the WPPSI and CATB scores are presented in Table 5 and 6. It appears from Table 5 that Hypothesis II was not sustained and that the variable of instability is in a direction contrary to the hypothesis, especially for the child's first year of life.

Hypothesis III

The correlations between SSI and the WPPSI and CATB scores relevant to Hypothesis III are presented in Tables 7 and 8. The hypothesis is not sustained. From Table 8 it can be seen that these correlations which are significantly different from zero are generally in a direction contrary to the hypothesis.

Additional Results

Self-Concept

One SSI variable was related to the total Self-Concept score for the low-income group. Total disagreement correlated -.38 ($p \leq .05$) with self-concept. For the total group (N=45), there were no significant correlations.

Development of Social Behavior

The interrelationships between social interaction patterns and the SSI

are presented in Table 9.

Testing Behaviors

No significant relationships were found between WPPSI testing behavior and the SSI. Correlations between the CATB testing behavior and the SSI are presented in Table 10.

Discussion: The Social System Interview

The Instrument

No difficulty was experienced in obtaining the cooperation of the mothers. It was explained in the initial contact, by phone or by personal visit, that the interview would take place at the convenience of the mother. It was pointed out that privacy for interviewing was not necessary and other members of the family could be present. In many cases this happened. It is not felt that the presence of fathers or other members of the family contributed substantially to the mother's recall. In most cases it was she who remembered specific information concerning the child. The interviewer did not feel that the factor of social desirability played a significant role in the answers. No mother attempted to evade a question and all questions were answered. This would be anticipated from the nature of the questions. In fact, in most cases the interviewer had to limit the recollections of the mother in order that the time required to complete the questions would not be too long. In the judgement of the interviewer only two mothers answered in a manner less than satisfactory. One mother was concerned that the interview was specifically in reference to the difficulties her son was having in Head Start classes; she was reassured that all mothers were being given the same interview. The other mother was obviously answering in a hurried and haphazard fashion; the interviewer felt that she was

not listing all caretakers.

With regard to the ability of mothers to recall the information desired it is felt that this was quite adequate. It has been observed that all members of the child's social-system had to be described by name, sex, age and relationship to the child. It is felt that the information obtained is correct. There is no guarantee that the enumerations included all caretakers.

It was not feasible in this study to return for a check on reliability of recall. It is felt that if the interview was used in the future the interview sessions should be shortened and two or more sessions should be scheduled. This would afford an opportunity for a check on reliability of recall and afford time for a more detailed listing of time spent by various caretakers with the child. It is felt that with a larger sample a simple coding method could be used to indicate just what caretakers aided the child in various activities. In the interview as conducted this information was lost.

The distributions of SSI scores were negatively skewed and somewhat bimodal as well. Most of the scores were at the high end of the distribution with a small cluster of extreme scores at the lower end of the distribution. In general these latter responses were by mothers without husbands living in the home and whose relatives were some distance from Lansing. The mothers did not work and their contacts with neighbors were infrequent. In some cases when other Head Start mothers were interviewed in the same neighborhood they volunteered the information that such and such a person was very "unfriendly." Thus, there seems no reason to presume they were merely uncommunicative with the interviewer and should be dropped from the analysis.

It would appear that the low-income social-systems tend to fall into certain types. With a larger group it might be possible to make comparisons between types if the tendencies observed in this sample prevailed. When the responses from the middle-income mothers' interviews were added to those of the low-income mothers, the distributions tended to normalize. There is less variation within the middle-income group and fewer extreme scores. The higher percentage of significant correlations in Table 8 are partly a result of this mixture of low- and middle-income children, which tended to normalize the distributions. Generally these results seem to indicate that in referring to the disadvantaged we are not referring to a homogeneous group with respect to social-environment.

From the results presented in Tables 2 and 3 it appears that it is worthwhile to inquire about the social-system rather than only members of the immediate family, especially during the first two years, and to ask questions about each of the four years rather than regarding the four years together. Older siblings, which is an indication of family size, correlates only .33 with system-size during the first year while it correlates .70 with system-size during the fourth year. Consistently the correlations of other variables with older-siblings is lowest during the first year.

It seems to be worthwhile also to inquire about the presence or absence of the father. From the correlations of Father Absence with the first year variables it appears that the presence or absence of the father at the present time has little relationship to the first year of life -- at least on the variables studied in this interview. The correlations between the fourth year variables indicate that father absence has a positive relationship only to those variables which throughout the tests are correlated negatively with more desirable scores. In very few cases did the absence of

the father mean the absence of a male-figure in the child's life.

The use of parametric statistics was not wholly satisfactory in the analysis of these data, largely due to the distributions of the variables. However, the use of rank correlations sometimes tends to obscure the fact of large differences between scores. As a check on the correspondence between Pearson and Spearman rank correlations for these data, several of the sets of data were transformed to ranks and analyzed using rank correlations. The resulting coefficients were very close to the Pearson coefficients originally obtained.

The Theory

It was supposed that system-size, instability, caretakers, disagreement. and direction would reflect an absence of hierarchial order -- the child would not have a stable and orderly enviorment. Assertion, playmates, and outside-visits were presumed to be beneficial influences in the child's social system.

The results of the interview call for some reassessment of the manner in which "hierarchical order" was operationalized. While system-size, caretakers, disagreement, and direction appear to have negative relationships to more desirable behaviors, the variable of instability appears to have positive relationships with desirable behaviors. This variable enumerates for each year the numbers of persons entering and leaving the child's social system. It is possible that the mothers of children from "unstable social-systems" form an identifiable sub-group. In general the mothers were decision makers with regard to the child's social-system. They are in control and paradoxically they do constitute a central source of order and direction for the child while many persons come and go in his system.

"Playmates" was presumed to be a favorable factor in a child's social-system. The results of the interview, tentative though they are, indicate just the opposite. It should be remembered in interpreting these correlations that playmates during the first two years are not older siblings. What might be indicated here is that the child is subjected to a great deal of quite arbitrary interference with his ongoing activities. During the first two years there are significant differences between the low- and middle-income mothers' responses on playmates. During the first two years the middle-income mothers appear to limit the numbers of persons who interact with the child. The same might be said of outside-visits. During the first two years it seems evident that the low-income mothers allow substantially more individuals to take the child from the home for one reason or another. This does not appear to be a benificial experience.

It is not surprising that the variable of assertion fails to indicate very much. Both low- and middle-income mothers did not speak favorably of this tendency on the part of the child to form his own preferences. They invariably referred to the non-assertive child as the "good" baby.

It might also be noted that all mothers, with only one exception, used some form of physical discipline. While it appears from the raw data that fewer persons diciplined the child in the middle-income families it could not be determined that the low-income mothers were any more harsh in their discipline. The difference in this case appears to be in the numbers of persons permitted by the mother to chastise the child.

It has already been suggested that a longer interview time would allow for more discriminations to be made. This in connection with a larger sample would allow for more definitive conclusions that could be reached from the results of this study.

Implications

If it were necessary to draw some practical conclusions from the findings, and were it presumed that the purpose of Head Start is to supply experiences lacking in the history of children and to avoid the repetition of seemingly harmful experiences, the following recommendations might be made.

The teacher should be aware of the possibility of great variation in the backgrounds of the children. Although the means of the low-income group were in most cases significantly higher than those of the middle-income groups on variables which appear to be non-conducive of desirable behaviors, there were low-income social-systems which appeared to have extremely low scores on some variables, scores much lower than the scores of the middle-income social-systems. On instability there were many low-income children who scored higher than the middle-income children. This variable appears to be positively related to cognitive ability as measured by the WPPSI. A curriculum planner or teacher would be well advised to be aware of these variations in the history of Head Start Children.

From this study it can be tentatively stated that the early social enviorment in which children develop the most desirable behaviors is that in which there is a central source of decisions. In our sample, this source was the mother. While it seems beneficial for the child to have a large number of caretakers, these caretakers are in interrelationship with the child successively, not directing at the same time. Also, it appears that the child should be allowed to play unmolested by adult interference during the first two years of life and free from the overdirecting by sibling and other directors of his play during the second two years of life.

The teacher should be the central figure and always in control even though other subsidiary persons might interact with the child.

The variable of disagreement appears to suggest that some attention should be given to the manner in which teachers, aides and volunteers agree about the care of children. The variable of disagreement as measured by mothers' responses does not refer to overt conflict. All that was asked in the SSI was whether identified caretakers agreed about ways of raising children. It can be asked whether teachers, aides and mothers could be expected to agree about the manner of handling children, especially problem children. It might be that a given child's actions not only produce but intend to produce in the Head Start setting the enviorment of disagreement prevalent in the enviorment from which he came.

TABLE 2

Range, Means and Standard Deviations of
Thirty Low-income Mothers'
Responses on Social-System Interview.

Mothers' Responses	Range	Mean	Standard Dev.
Father Absence	0 - 4	1.30	1.26
Older Siblings	0 - 9	2.16	2.56
System Size I	2 - 20	7.86	4.29
System Size II	2 - 25	7.40	4.62
System Size III	2 - 21	6.70	4.18
System Size IV	1 - 14	5.80	3.50
Instability I	0 - 13	.96	2.74
Instability II	0 - 19	2.00	3.45
Instability III	0 - 20	1.73	2.88
Instability IV	0 - 13	2.20	3.17
Instability T	0 - 46	7.03	9.68
Caretakers I	1 -115	29.06	26.67
Caretakers II	7 -125	33.53	28.10
Caretakers III	5 - 94	30.63	25.65
Caretakers IV	0 - 72	24.70	19.93
Caretakers T	8 -354	118.06	89.10
Disagreement I	0 - 81	17.46	17.52
Disagreement II	0 - 97	19.56	20.16
Disagreement III	0 - 81	17.50	18.67
Disagreement IV	0 - 78	17.86	17.31
Disagreement T	7 -304	99.06	160.32

TABLE 2: (cont.)

Mothers'Responses	Range	Mean	Standard Dev.
Direction I	0 - 138	35.30	32.46
Direction II	0 - 131	40.03	29.78
Direction III	0 - 114	40.36	30.13
Direction IV	0 - 89	30.30	25.50
Direction T	0 - 421	149.33	103.69
Assertion I	2 - 82	21.16	19.38
Assertion II	0 - 116	31.66	29.19
Assertion III	1 - 174	36.33	34.81
Assertion IV	3 - 127	35.10	29.94
Assertion T	8 - 560	133.76	126.98
Playmates I	1 - 45	12.43	9.08
Playmates II	4 - 45	14.06	9.29
Playmates III	4 - 36	11.26	8.28
Playmates IV	2 - 30	10.33	8.29
Playmates T	5 - 120	45.36	29.68
Outside Visits I	0 - 20	5.60	4.64
Outside Visits II	0 - 20	5.70	4.96
Outside Visits III	1 - 21	5.06	4.91
Outside Visits IV	0 - 18	4.90	5.29
Outside Visits T	2 - 79	20.96	17.33

TABLE 3

Intercorrelations Between Mothers' Responses on the Social-System Interview. N = 30. Statistic: Pearson r.

	F.A.	OldS	Syst I	Syst II	Syst III	Syst IV	Inst I	Inst II
Father Absence								
Older Siblings	-.45							
System Size I	-.04	.33						
System Size II	-.13	.41	.75					
System Size III	-.09	.51	.79	.89				
System Size IV	-.45	.70	.63	.53	.67			
Instability I	.22	-.27	.26	.00	.00	.19		
Instability II	.15	-.46	.18	-.20	-.26	-.09	.54	
Instability III	.34	-.23	.09	-.07	-.08	-.05	.34	.62
Instability IV	.22	-.21	.49	.28	.40	.23	.62	.41
Instability T	.31	-.39	.33	.00	.01	.08	.78	.82
Caretakers I	.00	.13	.40	.29	.25	.24	.30	.05
Caretakers II	-.18	.15	.23	.37	.18	.06	.02	.06
Caretakers III	-.12	.30	.58	.46	.51	.44	.22	.04
Caretakers IV	-.44	.44	.27	.39	.38	.55	.11	-.04
Caretakers T	-.19	.27	.42	.42	.36	.34	.19	.04
Disagreement I	-.01	-.03	.38	.05	.06	.39	.69	.54
Disagreement II	-.20	.19	.28	.31	.21	.37	.13	.15
Disagreement III	-.42	.56	.39	.37	.40	.56	-.01	-.11
Disagreement IV	-.08	.42	.60	.68	.68	.58	.10	-.14
Disagreement T	-.26	.59	.35	.33	.37	.52	.04	-.04
Direction I	.09	.08	.58	.56	.51	.25	.17	-.03
Direction II	-.19	.24	.39	.56	.38	.27	.05	-.01
Direction III	-.13	.30	.77	.64	.68	.57	.26	.13
Direction IV	-.30	.51	.48	.60	.61	.62	.09	-.09
Direction T	-.16	.33	.63	.67	.62	.48	.16	-.02
Assertion I	-.05	.10	.51	.35	.28	.37	.26	.13
Assertion II	-.14	.18	.46	.51	.43	.33	-.03	.00
Assertion III	-.14	.27	.40	.38	.47	.43	-.04	.07
Assertion IV	-.15	.39	.52	.65	.67	.62	.14	-.12
Assertion T	-.21	.30	.39	.41	.43	.41	.02	-.07
Playmates I	.01	.24	.75	.71	.69	.35	.10	-.07
Playmates II	-.16	.40	.74	.87	.83	.48	-.12	-.22
Playmates III	-.31	.72	.68	.60	.70	.77	.00	-.17
Playmates IV	-.41	.76	.43	.47	.55	.81	.07	-.19
Playmates T	-.15	.38	.72	.73	.74	.58	.04	-.14
Outside Visits I	.00	.17	.30	.32	.25	.14	.09	-.13
Outside Visits II	-.11	.20	.32	.47	.31	.15	.00	-.04
Outside Visits III	.03	.16	.40	.33	.22	.14	.26	.25
Outside Visits IV	-.18	.06	.13	.17	.10	.20	.14	.09
Outside Visits T	-.06	.03	.31	.35	.23	.15	.15	.06

TABLE 3 (cont.)

	Inst III	Inst IV	Inst T	Care I	Care II	Care III	Care IV	Care T	Disa I	Disa II
Instability III										
Instability IV	.44									
Instability T	.75	.78								
Caretakers I	.29	.45	.33							
Caretakers II	.32	.19	.18	.78						
Caretakers III	.16	.60	.31	.83	.67					
Caretakers IV	.03	.28	.12	.59	.65	.69				
Caretakers T	.24	.43	.27	.92	.89	.90	.80			
Disagreement I	.41	.27	.62	.31	.11	.19	.23	.24		
Disagreement II	.16	.01	.13	.20	.30	.13	.48	.30	.61	
Disagreement III	-.06	.00	-.07	.30	.33	.37	.64	.44	.33	.67
Disagreement IV	-.01	.24	.03	.26	.23	.39	.51	.38	.42	.72
Disagreement T	-.04	.05	.00	.33	.28	.48	.59	.46	.09	.18
Direction I	.27	.58	.31	.83	.67	.77	.47	.79	.21	.23
Direction II	.26	.24	.16	.68	.84	.57	.67	.78	.26	.62
Direction III	.17	.65	.39	.68	.54	.88	.66	.77	.28	.29
Direction IV	.04	.36	.13	.50	.55	.66	.84	.70	.06	.31
Direction T	.20	.52	.27	.79	.75	.83	.75	.88	.26	.42
Assertion I	.32	.30	.33	.67	.44	.51	.34	.57	.53	.47
Assertion II	.15	.28	.18	.43	.37	.49	.50	.53	.32	.73
Assertion III	.06	.45	.12	.44	.38	.64	.65	.58	.18	.53
Assertion IV	.09	.40	.16	.45	.42	.60	.74	.60	.33	.65
Assertion T	.06	.27	.08	.49	.40	.55	.56	.55	.39	.62
Playmates I	-.06	.42	.13	.54	.48	.63	.27	.52	.02	-.05
Playmates II	-.18	.32	-.05	.39	.45	.62	.48	.54	-.02	.23
Playmates III	-.05	.19	.00	.40	.28	.68	.51	.50	-.10	.15
Playmates IV	-.07	.18	.00	.35	.29	.56	.73	.52	.11	.26
Playmates T	-.05	.40	.08	.51	.41	.73	.56	.62	.06	.21
Outside Visits I	.21	.30	.15	.79	.35	.68	.43	.73	.00	.00
Outside Visits II	.26	.30	.17	.73	.84	.71	.58	.82	.00	.16
Outside Visits III	.52	.50	.51	.65	.82	.54	.28	.61	.28	.19
Outside Visits IV	.35	.35	.34	.74	.75	.64	.70	.80	.13	.21
Outside Visits T	.40	.40	.35	.81	.80	.70	.53	.81	.13	.00

TABLE 3 (cont.)

	Disa III	Disa IV	Disa T	Dir I	Dir II	Dir III	Dir IV	Dir T	Asrt I	Asrt II
Disagreement III										
Disagreement IV	.68									
Disagreement T	.69	.39								
Direction I	.23	.44	.13							
Direction II	.53	.54	.22	.75						
Direction III	.46	.55	.44	.78	.65					
Direction IV	.53	.49	.54	.54	.65	.76				
Direction T	.51	.59	.37	.88	.87	.91	.81			
Assertion I	.30	.46	.09	.73	.64	.63	.30	.69		
Assertion II	.52	.70	.07	.64	.77	.64	.44	.73	.71	
Assertion III	.51	.61	.23	.57	.59	.69	.56	.70	.46	.83
Assertion IV	.66	.84	.46	.54	.66	.69	.71	.75	.45	.72
Assertion T	.57	.69	.23	.52	.61	.61	.34	.66	.65	.81
Playmates I	.14	.39	.27	.67	.40	.71	.44	.65	.43	.28
Playmates II	.40	.66	.32	.64	.58	.76	.66	.76	.35	.56
Playmates III	.56	.52	.66	.39	.34	.71	.67	.60	.40	.33
Playmates IV	.63	.51	.70	.24	.38	.60	.77	.56	.24	.31
Playmates T	.54	.67	.60	.61	.48	.80	.64	.73	.43	.49
Outside Visits I	.27	.18	.39	.68	.55	.57	.37	.65	.52	.31
Outside Visits II	.34	.26	.41	.69	.75	.64	.51	.76	.46	.45
Outside Visits III	.00	.15	-.10	.76	.65	.60	.32	.67	.69	.51
Outside Visits IV	.30	.12	.25	.64	.71	.59	.59	.72	.44	.43
Outside Visits T	.22	.20	.18	.79	.77	.66	.66	.79	.61	.51

TABLE 3 (cont.)

	Asrt III	Asrt IV	Asrt T	Play I	Play II	Play III	Play IV	Play T	OutV I	OutV II	OutV III	OutV IV
Assertion III												
Assertion IV	.77											
Assertion T	.78	.70										
Playmates I	.28	.36	.36									
Playmates II	.54	.64	.50	.81								
Playmates III	.37	.53	.41	.56	.64							
Playmates IV	.49	.64	.44	.33	.50	.84						
Playmates T	.55	.70	.52	.73	.83	.79	.67					
Outside Visits I	.32	.35	.44	.59	.41	.44	.35	.60				
Outside Visits II	.42	.43	.50	.57	.55	.42	.40	.61	.85			
Outside Visits III	.36	.27	.38	.47	.37	.23	.09	.38	.59	.70		
Outside Visits IV	.53	.43	.42	.59	.31	.24	.42	.40	.66	.78	.69	
Outside Visits T	.47	.41	.50	.52	.45	.32	.31	.52	.84	.92	.87	.88

TABLE 4

F Test of Differences Between Means of Low-income (N=30) and Middle-income (N=15) Groups. Scores are from Responses of Mothers on Social-System Interview.

Variable	Means of Low-Income Group	Means of Mid-Income Group	F	P (one-tail)
Older Siblings	2.16	.66		
System Size I*	7.86	5.06	5.69	.01
Instability I	4.83	2.00		
Caretakers I	30.90	23.73		
Disagreement I	19.12	3.92	10.87	.01
Direction I	35.30	21.33	2.48	.06
Assertion I	22.22	14.50	1.74	.10
Playmates I	12.43	7.00	4.95	.01
Outside Visits I	6.22	4.61		
System Size II	7.40	6.06		
Instability II	4.28	5.20		
Caretakers II	34.68	24.20	1.85	.09
Disagreement II	21.74	7.91	5.45	.01
Direction II	40.03	26.53	2.63	.056
Assertion II	32.75	20.8	2.42	.07
Playmates II	14.06	8.00	5.63	.01
Outside Visits II	6.33	3.85	2.90	.05

*Roman numerals refer to year to which responses referred.

TABLE 4: Cont.

Variable	Means of Low-Income Group	Means of Mid-Income Group	F	P (one-tail)
System Size III	6.70	4.86	2.57	.05
Instability III	4.72	5.50		
Caretakers III	32.82	23.00	1.88	.09
Disagreement III	19.44	9.58	3.15	.04
Direction III	43.28	27.13	3.85	.03
Assertion III	36.33	27.15		
Playmates III	12.5	7.20	6.18	.008
Outside Visits	6.33	6.37		
System Size IV	5.80	4.73		
Instability IV	3.14	1.66		
Caretakers IV	27.44	23.66		
Disagreement IV	19.85	8.14	5.85	.01
Direction IV	34.60	29.86		
Assertion IV	35.10	25.06		
Playmates IV	11.07	6.93	3.54	.067
Outside Visits	6.12	6.38		
Instability T*	8.79	9.12		
Caretakers T	118.06	94.60		
Disagreement T	99.00	68.60		
Direction T	149.33	128.00		
Assertion T	133.76	81.00	2.38	.065
Playmates T	45.36	29.80	3.71	.03
Outside Visits	22.27	19.06		

*T = Total responses over four years.

TABLE 5

Correlations Between WPPSI Scores and Responses on Social-System Interview. N = 27.

WPPSI Scores	System Size				Instability					Caretakers				
	I	II	III	IV	I	II	III	IV	T	I	II	III	IV	T
Full Scale	-.13	-.05	-.13	-.07	.38	.16	.26	.18	.29	-.05	.00	-.07	-.09	-.05
Verbal	-.12	.03	-.09	-.13	.32	.11	.31	.15	.25	.07	.15	-.02	.02	.06
Performance	-.12	-.13	-.15	.00	.40	.18	.18	.17	.28	-.16	-.13	-.11	.18	-.16
Information	-.14	-.06	-.23	.11	.32	.12	.23	.02	.19	.03	.11	-.07	.15	.01
Vocabulary	-.26	-.14	-.27	-.07	.42	.19	.34	.22	.34	.19	.23	.04	.19	.18
Arithmetic	-.09	.00	-.02	-.07	.26	-.10	.07	.11	.07	.01	.00	-.05	.08	-.03
Similarities	-.01	.18	.07	-.11	.15	.22	.37	.18	.26	.00	.17	.04	.10	.09
Comprehension	-.08	.09	-.05	-.19	.21	.08	.31	.13	.21	.10	.18	-.02	-.05	.06
Animal House	-.01	.06	.00	-.07	.19	.16	.07	.17	.18	-.36	-.17	-.22	-.27	-.29
Picture Completion	.08	-.12	-.15	-.22	.38	.06	-.12	.02	.09	.21	.00	.12	-.21	.03
Mazes	-.31	-.39	-.36	-.05	.42	.17	.07	.04	.22	-.13	-.25	.15	-.20	-.21
Geometric Design	.02	-.05	-.02	.00	.37	.02	.11	.27	.24	.14	.07	.10	-.04	.08
Block Design	-.06	-.23	-.14	.13	.36	.25	.36	.22	.36	-.01	-.04	.05	-.03	-.01

df = 26	r = .317	r = .374	r = .437
one-tailed test	p = .050	p = .025	p = .010

TABLE 5: Continued

WPPSI Scores	Disagreement					Direction				
	I	II	III	IV	T	I	II	III	IV	T
Full Scale	.33	.26	-.26	.05	-.37	.00	.00	-.12	-.25	-.09
Verbal	.31	-.06	-.09	.20	-.27	.12	.18	-.06	-.14	.04
Performance	.29	.24	-.38	-.11	-.40	-.14	-.18	-.16	-.31	-.21
Information	.31	.29	-.13	.05	-.32	.02	.13	-.14	-.23	-.04
Vocabulary	.38	.13	-.08	.09	-.26	.12	.24	-.05	-.04	.08
Arithmetic	.22	.29	-.05	.17	-.21	.07	.03	-.13	-.25	-.05
Similarities	.20	.10	-.05	.31	-.16	.10	.20	.06	.08	.13
Comprehension	.23	-.15	-.10	.14	-.22	.21	.19	-.01	-.16	.09
Animal House	.04	.01	-.40	-.10	-.39	-.17	-.18	-.14	-.23	-.21
Picture Completion	.18	-.21	-.04	-.10	-.09	.06	-.03	-.07	-.24	-.06
Mazes	.21	.00	-.43	-.33	-.24	-.31	-.41	-.32	-.39	-.40
Geometric Design	.30	.02	-.18	.00	-.35	.16	.08	.05	-.18	.07
Block Design	.39	.19	-.20	-.04	-.25	-.10	-.10	-.02	-.12	-.09

df = 26	r = .317	r = .374	r = .437
one-tailed test	p = .050	p = .025	p = .010

TABLE 6

Correlations between CATB Scores and Responses on Social-System Interview. N = 26.

CATB Scores	System Size				Instability					Caretakers				
	I	II	III	IV	I	II	III	IV	T	I	II	III	IV	T
Task Initiation	.06	.14	.06	-.01	-.14	.12	-.10	.08	.01	.00	.13	.13	.23	.12
Curiosity Box	-.04	.15	.00	.04	.04	.05	-.08	.10	.06	-.06	-.07	-.04	.09	-.03
Dog and Bone	-.06	.10	.02	-.10	.05	-.14	-.21	.02	-.04	.05	.08	-.02	.14	.07
Reflectivity EC-MFF	-.19	-.16	-.13	-.11	.06	.01	.06	-.04	.02	-.20	-.06	-.13	.04	-.11
Field Independence EC-FFT	-.21	-.10	-.08	.01	.23	-.20	-.29	-.08	-.11	-.17	-.33	-.29	-.09	-.26
Motor Impulse Control	-.17	-.09	-.26	-.16	.08	-.15	-.10	-.21	-.13	.10	.11	-.03	.11	.08
Incidental Learning	-.05	-.15	-.04	.11	.16	.12	.24	.32	.25	.25	.05	.19	.18	.18
Intentional Learning	-.15	.02	.00	.01	.09	-.06	.17	.19	.08	.12	.13	.06	.13	.12
Persistence	-.29	-.42	-.38	-.24	.16	.13	.25	-.11	.13	.00	.05	-.06	-.09	-.01
Resistence to Distraction	-.09	-.19	-.05	.09	.07	.04	.34	.23	.20	.16	.00	.08	.00	.07
Task Competence	-.35	-.57	-.46	-.37	.19	.12	.19	.02	.15	-.07	-.17	-.15	-.32	-.19
Social Competence	-.10	-.09	-.08	-.21	-.05	.05	.16	.13	.12	.09	-.05	-.01	-.21	-.03
Kindergarten Prognosis	-.27	-.41	-.35	-.34	.00	.11	.15	-.02	.08	-.08	-.16	-.11	-.35	-.19
Verbal Curiosity	-.24	.12	-.12	-.35	.03	.13	.04	-.09	.07	-.06	.16	-.20	.09	.00
Fantasy Related Behavior	-.13	-.05	-.23	-.08	.15	.35	.44	.05	.32	.16	.16	-.04	-.01	.08

df = 25 one-tailed test: r = .323, p = .050; r = .381, p = .025; r = .445, p = .010

TABLE 6 : Continued

CATB Scores	Disagreement					Direction				
	I	II	III	IV	T	I	II	III	IV	T
Task Initiation	-.04	.24	.10	.04	.10	.08	.15	.20	.14	.15
Curiosity Box	.02	.15	-.02	.05	.06	.06	.05	.10	.04	.07
Dog and Bone	-.17	.00	.04	-.08	-.05	.05	.09	.00	..02	.05
Reflectivity	.07	-.08	.06	-.16	-.03	-.24	-.10	-.16	-.09	-.17
EC- Mff										
Field Independence EC- FFT	.00	-.18	-.18	-.10	-.14	-.28	-.33	-.33	-.18	-.31
Incidental Learning	.13	-.04	-.04	.01	.01	.19	.04	.12	.07	.12
Intentional Learning	.03	-.08	-.05	.02	-.02	.13	.06	-.08	-.04	.02
Persistence	.13	-.05	.03	-.24	-.03	-.18	-.11	-.18	-.22	-.19
Resistence to Distraction	.16	-.14	.02	-.03	.00	.14	-.01	.02	-.06	.03
Task Competence	.07	-.25	-.08	-.31	-.17	-.21	-.34	-.35	-.54	-.38
Social Competence	-.16	-.31	-.30	-.28	-.30	.14	-.12	-.02	-.25	-.05
Kindergarten Prognosis	-.06	-.36	-.25	-.39	-.31	-.13	-.35	-.27	-.52	-.34
Verbal Curiosity	-.15	.01	-.20	-.12	-.12	-.08	.12	-.08	.10	.01
Fantasy Related Behavior	.18	.02	-.19	-.16	-.03	.08	.11	-.02	-.03	.04
Motor Impulse Control	.18	.38	.34	.27	.34	.08	.19	-.06	-.01	.06
df = 25		r = .323			r = .381			r = .445		
one-tailed test		p = .050			p = .025			p = .010		

TABLE 7

Correlations between WPPSI Scores and Responses on Social-System Interview.

WPPSI SCORES	Assertion					Playmates					Outside Visits				
	I	II	III	IV	T	I	II	III	IV	T	I	II	III	IV	T
Full Scale	.07	.08	.00	.06	.10	-.16	-.18	-.33	-.23	-.21	-.03	-.01	.18	-.02	.07
Verbal	.18	.23	.06	.22	.19	-.16	-.11	-.29	-.21	-.11	.09	.08	.18	.03	.14
Performance	-.03	-.08	-.09	-.11	-.01	-.14	-.24	-.31	-.20	-.28	-.15	-.10	.14	-.08	-.07
Information	.20	.19	.00	.10	.14	-.20	-.20	-.31	-.20	-.18	.06	.02	.16	.01	.11
Vocabulary	.18	.21	.13	.20	.17	-.31	-.23	-.33	-.08	-.19	.07	.11	.27	.32	.26
Arithmetic	.04	.10	.06	.11	.12	-.10	-.13	-.29	-.23	-.12	.08	.02	.06	-.07	.05
Similarities	.11	.30	.15	.37	.20	-.11	.05	-.13	-.10	.00	-.06	.00	.05	-.04	.00
Comprehension	.25	.13	-.08	.09	.16	.03	.00	-.18	-.27	.00	.26	.22	.32	.03	.26
Animal House	-.23	-.15	-.18	-.19	-.19	-.01	.00	-.27	-.24	-.19	-.32	-.09	.11	-.15	-.09
Picture Comp	.08	-.03	-.10	-.17	-.06	.04	-.20	-.18	-.28	-.14	.11	-.09	-.03	-.19	-.05
Mazes	-.14	-.33	-.23	-.25	-.19	-.26	-.48	-.33	-.22	-.34	-.12	-.23	-.04	-.19	-.15
Geometric Des	.17	.13	.13	-.02	.24	.08	-.08	-.22	-.13	-.14	.15	.14	.31	.18	.26

df = 26	r = .317	r = .374	r = .437
one tailed test	p = .050	p = .025	p = .010

TABLE 8

Correlations Between CATB Scores and Responses on Social-System Interview.

CATB Scores	Assertion					Playmates					Outside Visits				
	I	II	III	IV	T	I	II	III	IV	T	I	II	III	IV	T
Task Initiation	.02	.28	.25	.15	.22	.00	.16	-.03	-.04	.15	-.06	.21	.23	.23	.17
Curiosity Box	.12	.19	.13	.21	18	.02	.08	-.14	-.06	.12	.05	.10	.15	.14	.12
Dog and Bone	-.10	.06	.08	.04	.05	.06	.02	-.29	-.11	.04	.22	.20	.07	.24	.20
Reflectivity EC-Mff	-.18	-.11	-.06	-.01	-.10	-.36	-.23	-.18	.08	-.21	-.15	-.09	-.12	.09	-.07
Field Independence	-.23	-.34	-.29	-.13	-.29	-.22	-.25	-.25	.03	-.25	-.32	-.46	-.46	-.21	-.39
Motor Impulse Control	.21	.22	-.01	.13	.15	-.19	-.08	-.09	-.11	.02	.15	.06	-.05	-.03	.03
Incidental Learning	.16	.00	.18	.14	.13	.02	-.11	.00	.12	.08	.16	.08	.20	.32	.22
Intentional Learning	-.06	-.13	-.06	.10	-.05	-.03	-.03	-.18	-.06	.07	.18	.20	.14	.24	.21
Persistence	-.06	-.17	-.17	-.11	-.17	-.32	-.42	-.27	-.30	-.22	.10	-.01	.03	.00	.03
Resistence to Distraction	.15	.00	.11	.07	.09	-.16	-.14	.05	.10	.02	.13	.00	.12	.19	.12
Task Competence	-.19	-.27	-.21	-.32	-.28	-.45	-.56	-.44	-.44	-.33	-.04	-.20	-.16	.12	-.15
Social Competence	.11	-.05	-.04	-.11	-.04	.02	-.12	-.15	-.33	.04	.26	.11	.25	.09	.19
Kindergarten Prognosis	-.07	-.21	-.21	-.34	-.25	-.35	-.43	-.34	-.50	-.23	.00	-.16	-.05	-.14	-.10
Verbal Curiosity	-.07	-.05	-.18	.01	-.10	-.01	.00	-.22	-.09	-.01	.01	.17	.12	.15	.13
Fantasy Related Behavior	.23	.01	-.13	.00	-.01	-.09	-.18	-.12	-.09	-.09	.13	.13	.24	.21	.20
df = 25 one-tailed test			r = .323 p = .050					r = .381 p = .050					r = .445 p = .010		

TABLE 9

Correlations Between SSI Variables and Scores from Development of Social Behavior. N = 31.

	Unoccupied	Solitary	Onlooker	Parallel	Cooperative	Associative
Economic Status*	-.46	-.29	.09	.17	.00	-.01
Sex	.10	.14	.20	.42	.28	-.27
Father Absence	-.01	.28	-.29	-.17	-.39	.35
Older Siblings	.47	.10	-.01	-.08	.00	-.07
First-Year Responses						
System Size	.21	-.04	-.21	-.12	-.02	.29
Instability	-.21	-.16	-.10	-.22	-.20	.39
Caretakers	.15	-.37	.40	.11	.25	.17
Disagreement	-.05	-.05	.05	.02	.24	.00
Direction	.03	-.34	-.16	-.30	.08	.50
Assertion	.02	-.24	-.03	-.27	.11	.27
Playmates	.24	-.10	.01	-.25	-.06	.36
Outside Visits	.37	-.31	.24	-.16	.11	.16
Second-Year Responses						
System Size	.09	-.22	-.19	-.37	-.10	.16
Instability	-.16	-.22	-.06	-.19	-.07	-.18
Caretakers	.12	-.45	.30	-.13	.29	.12
Disagreement	-.06	-.11	-.01	.04	.30	.00
Direction	.02	-.43	.03	-.28	.30	.25
Assertion	-.12	-.30	-.01	-.16	.24	.12
Playmates	.27	-.21	-.06	-.33	.03	.21
Outside Visits	.37	-.31	.30	-.18	.21	.15

Sig. Level for Two-Tailed Test:

r	p
.349	.05
.409	.02
.448	.01

*Low-Income = 1, Middle-Income = 2

TABLE 9: Continued

	Unoccupied	Solitary	Onlooker	Parallel	Cooperative	Associative
Third-Year Responses						
System Size	.23	-.10	-.16	-.22	.25	.00
Instability	-.07	-.25	-.02	-.14	-.25	-.04
Caretakers	-.34	-.38	.27	-.01	.09	.23
Disagreement	.39	-.20	.10	.00	-.06	.31
Direction	.38	-.37	.04	-.28	.26	.23
Assertion	.10	-.29	.06	-.02	-.08	.35
Playmates	.60	-.29	.07	-.11	-.00	.24
Outside Visits	-.17	-.43	.27	.14	.01	.37
Fourth-Year Responses						
System Size	.37	-.04	-.02	.03	-.07	.20
Instability	.00	-.24	-.12	-.16	.30	.00
Caretakers	.28	-.45	.41	.15	-.06	.53
Disagreement	.10	-.21	.02	-.06	.14	.24
Direction	.33	-.32	-.04	-.14	.19	.25
Assertion	.12	-.37	.00	-.11	.10	.28
Playmates	.61	-.23	.11	-.14	-.03	.21
Outside Visits	.15	-.45	.37	-.04	.03	.38
Responses Totaled Over Four Years						
Instability	-.14	-.29	-.06	-.23	-.07	-.07
Caretakers	.25	-.47	.38	.02	.09	.36
Disagreement	.56	-.18	.02	-.04	.04	.06
Direction	.12	-.41	.09	-.08	.12	.37
Assertion	.06	-.31	.34	-.09	-.01	.32
Playmates	.45	-.40	.05	-.17	.18	.18
Outside Visits	.12	-.46	.36	-.06	.13	.34

TABLE 10

Correlations between Scores of Inventory of Test Behavior, Referring to Behavior while taking CATB, and SSI Variables. N = 26.

	Year to which Responses Refer				
	I	II	III	IV	T
System Size	.46**	.62***	.58***	.26	
Instability	-.06	-.12	-.19	.15	-.06
Caretakers	.11	.08	.18	.10	.13
Disagreement	-.15	-.05	-.14	.21	-.03
Direction	.32	.22	.38*	.42*	.37
Assertion	.18	.12	.08	.15	.15
Playmates	.71***	.61***	.37	.22	.29
Outside Visits	.11	.18	.16	-.02	.11

* P ≤ .05
** P ≤ .02
*** P ≤ .01

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APPENDIX

CHILD SOCIAL-SYSTEM INVENTORY
Form A-I

First Year

1. We would like to know who was in .....family when he/she was born. Can you name those who made up the family at his/her birth? (1.a. of Form A-II)

2. Did any of these persons leave the home before .....was a year old? Can you name them? (1.b. of Form A-II)

3. Did others come to live in the home before .....was a year old? Can you name them? (1.b. of Form A-II)

4. Did .....have a regular baby-sitter who came to the home during his/her first year? Can you name this person? (2.a. of Form A-II)

5. Did relatives or firends visit the home regularly? Did they visit at least once a week? Can you name them? (2.a. of Form A-II)

6. Did.....live with another group of people before he/she was a year old? (with or without mother) Yes? No?
If answer is 'yes' use a new Form A-II. Ask questions 1 through 5. Rephrase 1: We would like to know who was in the other group of people with whom.....lived? This will require an additional set of 'activities' questions; this is Form B.

Second Year

1. We would like to know who was in .....family between his/her first and second birthday. Can you name those who lived with him/her during this time? (If persons are the same as for first year circle '2' of completed Form A-II. If persons are not the same use an additional Form A-II)

2. Did any of these persons leave the home between his/her first and second birthday? Can you name them? (1.b. of Form A-II)

3. Did others come to live in the home between his/her first and second birthday? (1.b. of Form A-II)

4. Did ..... have a baby-sitter during his second year? Can you name his/her baby-sitter? (2.a. of Form A-II)

5. Did relatives or friends visit the home regularly? Did they visit at least once a week? (2.b. of Form A-II)

6. Did.....live with more than one group of persons during the year between his/her first and second birthday? (with or without mother) Yes? No? If answer is 'yes' use a new Form A-II. Ask questions 1 through 5. Rephrase question 1: We would like to know who was in the other group of people with whom .....lived. This will require an additional set of 'activities' questions.

Form A-I

Third Year

1. We would like to know who was in .....family between his/her second and third birthday. Can you name those who lived with him/her during this time? (If persons are the same as for First Year or Second Year circle '3' of completed Form A-II. If persons are not the same use an additional Form A-II)

2. Did any of these persons leave the home between his/her second and third birthdays? Can you name them? (1.b. of Form A-II)

3. Did others come to live in the home between his/her second and third birthdays? Can you name them? (2.a. of Form A-II)

4. Did.....have a baby-sitter during his/her third year? Can you name his/her baby-sitter? (2.a. of Form A-II)

5. Did relatives or friends visit the home regularly? Did they visit at least once a week? Can you name them? (2.b. of Form A-II)

6. Did.....live with more than one group of persons during the year between his/her second and third birthdays? (with or without mother) Yes? No? If 'yes' use a new Form A-II. Ask questions 1 through 5. Rephrase question 1: We would like the names of those who made up this group. Can you name them?

Fourth Year

1. Was.....four years old when he first went to Head Start? If answer is 'yes' ask: We would like to know who was in ..... family between his/her third and fourth birthday? If'no' ask: We would like to know who was in .....family between his/her third birthday and when he/she started Head Start? (If persons are the same as for previous year or years circle'4' of completed Form A-II. If persons are not the same use additional Form A-II)

2. Did any of these persons leave the home during this year? Can you name them? (Use 1.b. of Form A-II)

3. Did others come to live in the home during his/her fourth year? (1.b. of Form A-II)

4. Did .....have a baby-sitter during his/her fourth year? Can you name this baby-sitter? (2.a. of Form A-II)

5. Did relatives or friends visit the home regularly? Did they visit at least once a week? Can you name them? (2.b. of Form A-II)

6. Did .....live with more than one group of persons during this year? (with or without mother) Yes? No? If answer is 'yes' use a new Form A-II. Use a new set of activities questions. Repeat questions 1 through 5. Rephrase question 1: Can you tell us the names of those who lived in this family?

Child.....No.....Class.....Center.....

Form A-II

Year: 1,2,3,4 Social-System: 1,2,3,4

	Person	Age	Sex	Relationship to Child
1.a.	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
b.	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
2.a.	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
b.	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....
	.....	...	...	.....

CHILD SOCIAL-SYSTEM INVENTORY
Form B-I

1. Eating:
   a. Did...(enumerate members of the social-system)...help feed .....?
      How many helped to feed him/her?
      Did they help feed him/her....sometimes? Quite often? Regularly?
   b. Did ...(enumerate members of the social-system)... disagree about his/her eating; what he/she was to eat, how or when?
      How many disagreed?
      Did they disagree...sometimes? Quite often? Regularly?
   c. Did ...(members of the social-system)...try to get him/her to eat the way he/she should?
      How many tried?
      Did they try...sometimes? Quite often? Regularly?
   d. Did .....try to get...(members of system)...to feed him/her when he/she wanted; or what he/she wanted; or when he/she wanted?
      How many did he/she try this with?
      Did he/she try this...sometimes? Quite often? Regularly?

2. Play:
   a. Did ...(members of social-system) play with ....., or watch him/her while he/she played?
      How many took care of him/her when he/she played?
      Did they watch him/her ...sometimes? Quite often? Regularly?
   b. Did ...(members of social system)... disagree about his playing? With whom he/she played? When he/she played? How?
      How many disagreed?
      Did they disagree...sometimes? Quite often? Regularly?
   c. Did ...(members of social system)... try ro get him/her to play the way he/she should?
      How many used to try to do this?
      Did they try to get.....him/her to play the way he/she should ... sometimes? Quite often? Regularly?
   d. Did .....try to get...(members of social system)...to play with hime when he/she wanted?
      How many did he/she try to get to play with him/her?
      Did he try to get them to play with him/her ...sometimes? Quite often? Regularly?

3. Clothing:
   a. Did ...(members of social system)... help dress.....?
      How many would help?
      Did they help...sometimes? Quite often? Regularly?
   b. Did ...(members of social system)...disagree about dressing .....?
      How many disagreed?
      Did they disagree...sometimes? Quite often? Regularly?
   c. Did ...(members of social system)...try to get him to dress the way they wanted?
      Did they do this...sometimes? Quite often? Regularly?
   d. Did .....try to get...(members of social system)...to let him/her dress the way he/she wanted?
      How many did he/she try this with?
      Did .....do this...sometimes? Quite often? Regularly?

Form B-I (cont.)

4. Sleep and naptime:
   a. Did ...(members of social system)...help get.....ready for bed or get him/her to sleep for naps?
      How many used to help?
      Did they help get him/her to sleep...sometimes? Quite Often? Regularly?
   b. Did they disagree about when.....was to go to bed or take his/her naps?
      How many disagreed about this?
      Did they disagree...sometimes? Quite often? Regularly?
   c. Did ...(members of social system)...try to get him/her to go to sleep at night or take a nap?
      How many tried to get him/her to sleep?
      Did they try to do this...sometimes? Quite often? Regularly?
   d. Did .....try to get his/her way about not slepping with... (members of social system)...?
      How many did he/she try this with?
      Did he/she try this...sometimes? Quite often? Regularly?

5. Discipline:
   a. Did...(members of social system)...have to punish.....?
      How many helped to discipline him/her?
      Did they do this...sometimes? Quite often? Regularly?
   b. Did ...(members of social system)...disagree about punishment for him/her?
      How many disagreed?
      Did they disagree...sometimes? Quite often? Regularly?
   c. Did ...(members of social system) ... have to threaten him/her to get him/her to obey?
      How many had to do this?
      Did they have to do this...sometimes? Quite often? Regularly?
   d. Was .....able to get out of being punished by ...(members of social system)? Did he/she try?
      How many did he/she try this with?
      Did he/she try this with them...sometimes? Quite often? Regularly?

6. Diapers (potty-training):
   a. Did ...(members of social system)...help change..... when he/she was dirty; or help potty-train him/her?
      How many helped with him/her?
      Did they help...sometimes? Quite often? Regularly?
   b. Did ...(members of social system)... disagree about changing .....or about toilet-training him/her or about helping him/her to go to the bathroom?
      How many would disagree about this?
      Did they disagree...sometimes? Quite often? Regularly?
   c. Did ...(members of social system)...try to get him/her to stay clean?.....learn to go to the bathroom?
      How many tried to do this?
      Did they try to do this...sometimes? Quite often? Regularly?
   d. Did.....try to get his/her way about being changed or potty trained or going to the bathroom with...(members of social system)?
      How many did he/she try this with?
      Did he/she try...sometimes? Quite often? Regularly?

Form B-I (cont.)

7. Crying:
   a. Did ...(members of social-system)... help.....when he/she was crying or wanted something?
      How many paid attention to his crying?
      Did they do something about it...sometimes? Quite often? Regularly?
   b. Did ...(members of social system)...feel differently about his/her crying?
      How many disagreed?
      Did they disagree about him/her and his/her crying...sometimes? Quite often? Regularly?
   c. Did ...(members of social system) try to stop his/her crying?
      How many would try this?
      Did they try...sometimes? Quite often? Regularly?
   d. Did .....try to get his/her way with...(members of social system)...by crying or begging?
      How many did he try this with?
      Did he/she try this...sometimes? Quite often? Regularly?

8. Activity outside house:
   a. Did...(members of social system)...take him/her for walks or to the store or on visits to other homes?
      How many did this?
      Did they do this...sometimes? Quite often? Regularly?
   b. Did ...(members of social system)...disagree about his/her going outside or on trips or to the store?
      How many disagreed about this?
      Did they disagree...sometimes? Quite often? Regularly?
   c. Did ...(members of social system)...try to get.....to stay in or go out?
      How many tried to get their way about this with.....?
      Did they do this sometimes? Quite often? Regularly?
   d. Did .....try to get his/her way about going with ... (members of social system)...?
      How many did he/she try this with?
      Did he/she try this...sometimes? Quite often? Regularly?

9. Illness:
   a. Did...(members of social system)...help take care of..... .. when he/she was sick?
      How many helped out with him/her?
      Did they help out...sometimes? Quite often? Regularly?
   b. Did ...(members of social system) ...disagree about whether..... was sick or not or what to do when he/she was sick?
      How many disagreed?
      Did they feel differently about this...sometimes? Quite often? Regularly?
   c. When .....was sick did ...(members of social system)... try to get him/her to do what they thought was good for him/her?
      How many tried to do this?
      Did they try...sometimes? Quite often? Regularly?
   d. When .....was sick did he/she try to get...(members of social system)...to do what he/she wanted?
      How many did he/she try this with?
      Did he/she try this...sometimes? Quite often? Regularly?

Child.....No....Class....Center.....

Form B-II

Year: 1,2,3,4 Social-system: 1,2,3,4

1. a. Yes...No... Number... Sometimes... Quite often... Regularly...
   b. Yes...No... Number... Sometimes... Quite often... Regularly...
   c. Yes...No... Number... Sometimes... Quite often... Regularly...
   d. Yes...No... Number... Sometimes... Quite often... Regularly...

2. a. Yes...No... Number... Sometimes... Quite often... Regularly...
   b. Yes...No... Number... Sometimes... Quite often... Regularly...
   c. Yes...No... Number... Sometimes... Quite often... Regularly...
   d. Yes...No... Number... Sometimes... Quite often... Regularly...

3. a. Yes...No... Number... Sometimes... Quite often... Regularly...
   b. Yes...No... Number... Sometimes... Quite often... Regularly...
   c. Yes...No... Number... Sometimes... Quite often... Regularly...
   d. Yes...No... Number... Sometimes... Quite often... Regularly...

4. a. Yes...No... Number... Sometimes... Quite often... Regularly...
   b. Yes...No... Number... Sometimes... Quite often... Regularly...
   c. Yes...No... Number... Sometimes... Quite often... Regularly...
   d. Yes...No... Number... Sometimes... Quite often... Regularly...

5. a. Yes...No... Number... Sometimes... Quite often... Regularly...
   b. Yes...No... Number... Sometimes... Quite often... Regularly...
   c. Yes...No... Number... Sometimes... Quite often... Regularly...
   d. Yes...No... Number... Sometimes... Quite often... Regularly...

6. a. Yes...No... Number... Sometimes... Quite often... Regularly...
   b. Yes...No... Number... Sometimes... Quite often... Regularly...
   c. Yes...No... Number... Sometimes... Quite often... Regularly...
   d. Yes...No... Number... Sometimes... Quite often... Regularly...

Child.....No....Class....Center.....

Form B-II (cont.)

Year: 1,2,3,4 Social-system: 1,2,3,4

7. a. Yes...No... Number... Sometimes... Quite often... Regularly...

   b. Yes...No... Number... Sometimes... Quite often... Regularly...

   c. Yes...No... Number... Sometimes... Quite often... Regularly...

   d. Yes...No... Number... Sometimes... Quite often... Regularly...

8. a. Yes...No... Number... Sometimes... Quite often... Regularly...

   b. Yes...No... Number... Sometimes... Quite often... Regularly...

   c. Yes...No... Number... Sometimes... Quite often... Regularly...

   d. Yes...No... Number... Sometimes... Quite often... Regularly...

9. a. Yes...No... Number... Sometimes... Quite often... Regularly...

   b. Yes...No... Number... Sometimes... Quite often... Regularly...

   c. Yes...No... Number... Sometimes... Quite often... Regularly...

   d. Yes...No... Number... Sometimes... Quite often... Regularly...